



CIVIL QUALITY CONSULTANTS & ENGINEERS

(Buildings Geo-Tech & Highway Materials Testing Laboratory)

An ISO 9001: 2015 Certified Company

NABL Accredited As Per ISO/IEC : 17025:2005 Laboratory



Job No.:

CQCE/BBMP/MY/W.No.12/2019-20

Date : 30.07.2019

TEST REPORT ON FINE AGGREGATES (SAND) IS 383-1970 (RA- 2002)

Client : Executive Engineer, Dasarahalli Zone, BBMP, Bangalore.

Agency : Sri. M. Yogesh (Professional global infrastructure privited limited), Bangalore.

Name of Work : Restoration of road cut portion done by BWSSB (For water line and sanitary Line) in Abbigere village F Bus stop surrounding area in ward no.12, Shettyhalli sub division , BBMP, Bangalore.

Date of Testing : 30.07.2019

Material : Stone Dust

Total Wt. of Aggregates in gms : 1000

Is Sieve Size in mm	Weight Retained (gm)	Retained Weight in %	Cumulative Retained Weight in %	Cumulative Weight Passing in %	Spec.Limits For Zone-II
10	0	0	0	100	100
4.75	85	8.50	8.50	91.5	90-100
2.36	150	15.00	23.50	76.5	75-100
1.18	169	16.90	40.40	59.6	55-90
600 Micron	210	21.00	61.40	38.6	35-59
300 Micron	208	20.80	82.20	17.8	8-30
150 Micron	130	13.00	95.20	4.8	0-10

Note:

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Job No.: CQCE/BBMP/MY/W.No.12/2019-20

Date 23.01.2019

FIELD DENSITY TEST BY SAND REPLACEMENT METHOD (IS : 2720 - Part 28)

Client : Executive Engineer, Dasarahalli Zone, BBMP, Bangalore.
Agency : Sri. M. Yogesh (Professional global infrastructure privited limited), Bangalore.
Name of work : Restoration of road cut portion done by BWSSB (For water line and sanitary Line) in Abbigere village F Bus stop surrounding area in ward no.12, Shettyhalli sub division , BBMP, Bangalore.
Date of Testing : 03.08.2019 to 05.08.2019
Material Source : Wet Mix Macadam

Max.Dry Density g/cc 2.27
Optium Moisture Content (%) 7.29
Bulk Density of Sand g/cc(ys) 1.35 g/cc
Wt. of Sand in Cone gms 335 grams

DETERMINATION OF WET DENSITY

Test Holes No's	1
Offset from centre of alignment & chainage	Abbigere Village F Bus stop
Wt of the Moist soil from excavated hole = W	1980
Wt.of Cylinder+Sand before pouring (gm) (w1)	6800
Wt.of Sand in the cone (gm) (w2)	335
Wt.of the Cylinder and sandfilling the excavated hole (w4)	5280
Wt of the sand in the excavated hole $w_b = w_1 - w_4 - w_2$	1185
Volume of Sand in Hole = $(v = w_b / Y_s) = \text{cm}^3$	877.78
Insitu Bulk density Wet excavated soil $Y = w/v$	2.26
Moisture Content (%)	

DETERMINATION OF DRY DENSITY

Field dry Density (g/cc)	2.26
Field compaction achieved (%)	99.37
Required Compaction (%)	98

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Job No.: CQCE/BBMP/MY/W.No.12/2019-20

Date: 08.08.2019

TEST REPORT

Client	:	Executive Engineer, Dasarahalli Zone, BBMP, Bangalore.
Agency	:	Sri. M. Yogesh (Professional global infrastructure privited limited), Bangalore.
Name of the work	:	Restoration of road cut portion done by BWSSB (For water line and sanitary Line) in Abbigere village F Bus stop surrounding area in ward no.12, Shettyhalli sub division , BBMP, Bangalore.
Source of location	:	Hot mix Plant, Bangalore
Date of testing	:	08.08.2019

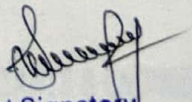
The results of the tests conducted on the bitumen sample using for Semi Dense Bituminous Concrete

Sl. No	Description	Test Result	Requirement as per IS:73:2013
1	Penetration at 25 °C, 1/10 mm	85	80 to 100
2	Softening point, °C	44	Min. 40
3	Ductility at 27°C, cm	100 >	Min. 75
4	Flash Point, °C	302	Min. 220

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Date: 08.08.2019

Aggregate Impact Value

IS: 2386 Part IV

Client	Executive Engineer, Dasarahalli Zone, BBMP, Bangalore.
Agency	Sri. M. Yogesh (Professional global infrastructure privited limited),
Name of the Work	Restoration of road cut portion done by BWSSB (For water line and sanitary Line) in Abbigere village F Bus stop surrounding area in ward no.12, Shettyhalli sub division , BBMP, Bangalore.
Source / Location	Hot Mix Plant, Bangalore
Type of Mix	Semi Dense Bituminous Concrete
Date of Testing	08.08.2019

Sl No.	Details	Trial No.			Average
		1	2	3	
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	380	382	384	22.25
2	Weight of aggregate passing 2.36 mm sieve after the test = W_2 g	83	85	87	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	297	297	297	
4	Aggregate Impact value = percent fines $100 * (W_2/W_1)\%$	21.84	22.25	22.66	

Comments:

→ Maximum allowable Aggregate Impact value for Semi Dense Bituminous Concrete is 27%

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Date: 08.08.2019

DETERMINATION OF FLAKINESS INDEX & ELONGATION INDEX OF COARSE AGGREGATES

Client	Executive Engineer, Dasarahalli Zone, BBMP, Bangalore.
Agency	Sri. M. Yogesh (Professional global infrastructure privited limited), Bangalore.
Name of Work	Restoration of road cut portion done by BWSSB (For water line and sanitary Line) in Abbigere village F Bus stop surrounding area in ward no.12, Shettyhalli sub division , BBMP, Bangalore.
Technical Reference	IS 2386(Part 1) 1963 (RA 2007)
Type of Mix	Semi Dense Bituminous Concrete
Date of Testing	08.08.2019

Result : Flakiness Index = 12.85%

Elongation Index = 14.12%

Result : Combined Flakiness & Elongation index 26.97%

Comments:

→ Maximum allowable Flakiness & Elongation Index for Semi Dense Bituminous Concrete is 30%

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08.08.2019

Specific Gravity And Water Absorption Test

IS: 2386 Part III

Client	Executive Engineer, Dasarahalli Zone, BBMP, Bangalore.					
Agency	Sri. M. Yogesh (Professional global infrastructure privited limited), Bangalore.					
Name of the Work	Restoration of road cut portion done by BWSSB (For water line and sanitary Line) in Abbigere village F Bus stop surrounding area in ward no.12, Shettyhalli sub division , BBMP, Bangalore.					
Type of Mix	Semi Dense Bituminous Concrete					
Source / Location	Hotmix Plant, Bangalore					
Date of Testing	08.08.2019					

Sl. No.	Details	Notation	Test Number			Mean Value
			Test 1	Test 2	Test 3	
1	Weight of aggregate suspended in water with the basket	$W_1 g$	2020	2022	2024	
2	Weight of basket suspended in water	$W_2 g$	755	755	755	
3	Weight of saturated aggregate in water	$(W_1 - W_2) = W_s g$	1265	1267	1269	
4	Weight of saturated surface dry aggregate in air	$W_3 g$	2015	2017	2019	
5	Weight of water equal to the volume of the aggregate	$(W_3 - W_s) g$	750	750	750	
6	Weight of oven dried aggregate	$W_4 g$	2009	2010	2011	
7	Specific Gravity	$W_4 / (W_3 - W_s)$	2.679	2.680	2.681	2.680
8	Apparent Specific gravity	$W_4 / (W_4 - W_s)$	2.700	2.705	2.710	2.705
9	Water Absorption	$((W_3 - W_4) * 100) / W_4$	0.30%	0.35%	0.40%	0.35%

Comments:

→ Maximum allowable Aggregate Water absorption value for Semi Dense Bituminous Concrete is 2.0%

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